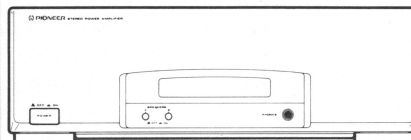


Service Manual



ORDER NO.
ARP2643

STEREO POWER AMPLIFIER

M-J510

M-J410

M - J510 AND M - J410 HAVE THE FOLLOWING :

Type	Model		Power Requirement	Remarks
	M - J510	M - J410		
HB	○	—	AC220V - 230V, 230V - 240V (switchable)*	
HE	○	—		
HEWZIW	○	—		
SD	○	○	AC110V, 120 - 127V, 220V, 240V (switchable)	
SL	○	○	AC110V, 120V, 220V, 240V (switchable)	

* Change the connection of the power transformer's primary wiring.

- This manual is applicable to the following : M-J510/HB, HE, SD, SL and HEWZIW ; M-J410/SD and SL.
- For the following : M - J510/HE, SD, SL and HEWZIW ; M - J410/SD and SL, refer to page 19.
- These products are systems components. Each of these products does not function properly when independent ; to avoid malfunctions, be sure to connect it to the prescribed system component(s), otherwise damage may result.

CONTENTS

1. EXPLODED VIEWS, PACKING AND PARTS LIST	2
2. SCHEMATIC DIAGRAMS	6
3. PCB CONNECTION DIAGRAMS	9
4. PCB PARTS LIST	17
5. FOR M - J510/HE, SD, SL AND HEWZIW , M - J410/SD AND SL	19
6. PANEL FACILITIES	28
7. SPECIFICATIONS	29

1. EXPLODED VIEWS, PACKING AND PARTS LIST

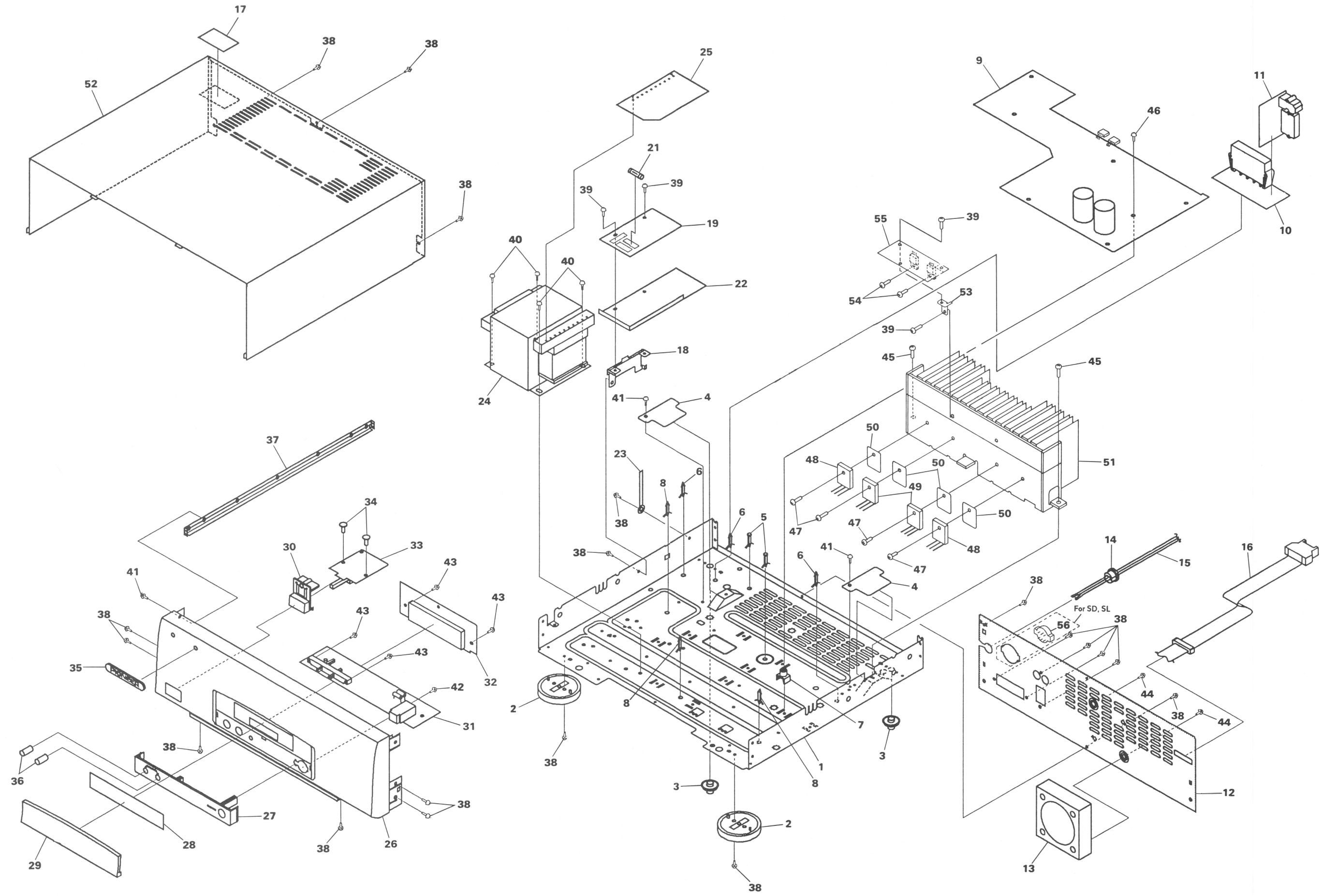
NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

● Parts List

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
NSP	1	Chassis (MTL)	ANA1194	●	31	HP assembly	AWZ4399
	2	Foot assembly	RXA1448	●	32	DISPLAY assembly	AWZ4420
	3	Foot assembly(S)	AMR1937	●	33	SWITCH assembly	AWZ4983
NSP	4	Chassis cover	ANG1627		34	Nylon rivet	AEP-194
NSP	5	PCB Support	AEC1217	NSP	35	PIONEER badge	AAM1047
NSP	6	PCB Support	AEC1216		36	SP change SW	AAD2339
NSP	7	PCB Mold	AMR2115	NSP	37	Reinforced plate	ANG1635
NSP	8	PCB Support	AEC1006		38	Screw	BBZ30P080FZK
●	9	PA assembly	AWZ4752		39	Screw	ABA1011
●	10	MAIN SP assembly	AWZ4987		40	Screw	ABA1184
●	11	REAR SP assembly	AWZ4421		41	Screw	BBZ30P060FZK
NSP	12	REAR Panel (MTL)	ANC1955		42	Screw	ABA1095
	13	Fan motor	AXM1013		43	Screw	BBZ26P080FMC
Δ	14	AC cord stopper	AEC-882		44	Screw	PPZ50P100FZK
Δ	15	AC power cord	ADG1067		45	Screw	ABA1054
	16	Connection cable	ADE1126		46	Screw	ABA1024
	17	Caution label	AAX1679		47	Screw	ABA1082
NSP	18	PCB Holder plate	ANG1609		48	Transistor (Q1, Q2)	MSC3281
●	19	PRIMARY assembly	AWZ4415		49	Transistor (Q3, Q4)	MSA1302
	20	.....	.....		50	Mica sheet	AEE1014
Δ	21	FUSE (FU1, T2.5A)	AEK-512	NSP	51	Heat sink	ANH1401
	22	Barrier	AEC1478		52	Bonnet	ANE1381
	23	Binder	AEP-215		53	PCB Holder plate	ANG1618
Δ	24	Power transformer (T1)	ATS1459		54	Screw	ABA1047
	25	TRANS assembly	AWZ4409	●	55	REAR AMP. assembly	AWZ4424
	26	Front panel (PLS)	AMB2048	Δ	56	Voltage selector	AKX-507
	27	Sub panel (PLS)	AAP1325				
	28	Sheet (PLS)	AAK2368				
	29	FL panel	AAK2386				
	30	Power button	AAD2338				

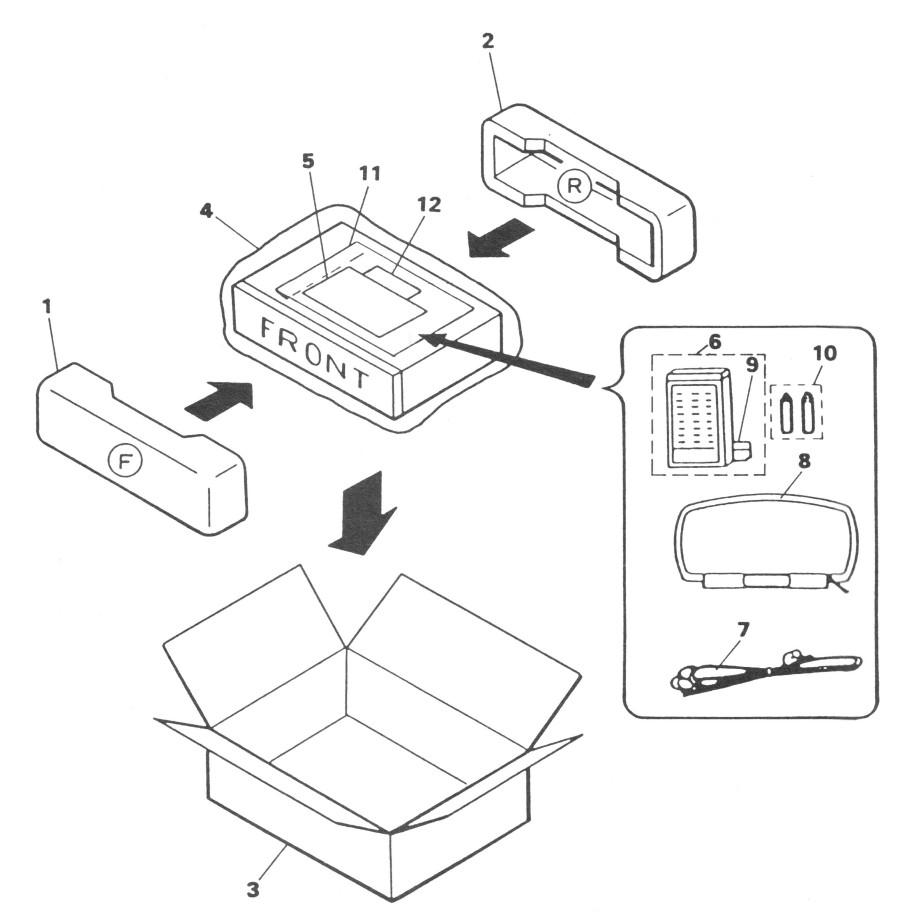
● Exploded views



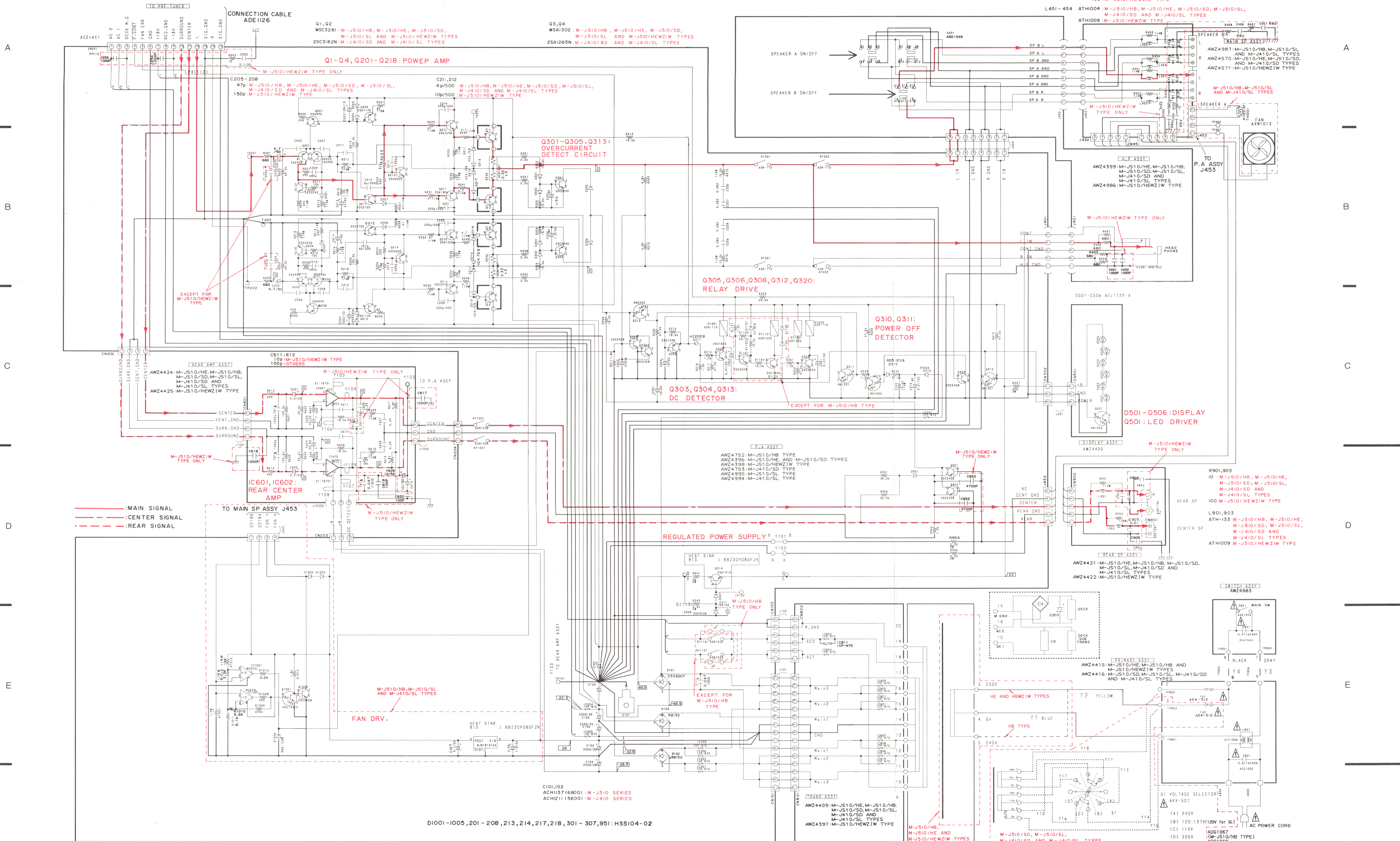
NOTE : Screws adjacent to ▼ mark on product are used for disassembly.

● Packing

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
1	Front pad	AHA1545	7	FM antenna	ADH1005
2	Rear pad	AHA1546	8	AM loop antenna assy	ATB1006
3	Packing case	AHD2490	9	Battery cover	AZN2237
4	Packing sheet	AHG1016	NSP 10	Battery (R03, AAA)	AEX-021
5	Operating instructions (English, French)	ARE1258	NSP 11	Literature bag	AHG-117
6	Remote control unit (CU-MJ006)	AXD1334	NSP 12	Warranty card	ARW-088



2. SCHEMATIC DIAGRAMS



Note:

- (Type 1)
- When ordering service parts, be sure to refer to "PARTS LIST OF EXPLODED VIEWS" or "PCB PARTS LIST".
 - Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

3. RESISTORS:

Unit: k Ω , M Ω , or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance: (F): $\pm 1\%$, (G): $\pm 2\%$, (K): $\pm 10\%$, (M): $\pm 20\%$ or $\pm 5\%$ unless otherwise noted.

4. CAPACITORS:

Unit: pF or μF unless otherwise noted.
Ratings: capacitor (μF)/voltage (V) unless otherwise noted.
Rated voltage: 50V except for electrolytic capacitors.

5. COILS:

Unit: mH or μH unless otherwise noted.

6. VOLTAGE AND CURRENT:

□ : Signal voltage at rated output.
□ : DC voltage (V) at no input signal unless otherwise noted.
Value in () is DC voltage at rated power.
mA or -mA : DC current at no input signal unless otherwise noted.

7. OTHERS:

- : Signal route.
- ⊙ : Adjusting point.
- (Red) : Measurement point.
- The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

8. SWITCHES (Underline indicates switch position):

- H.P. ASSY
S401: SPEAKER
A, B ON/OFF SW
- SWITCH ASSY
S851: MAIN SW

3. PCB CONNECTION DIAGRAMS

A

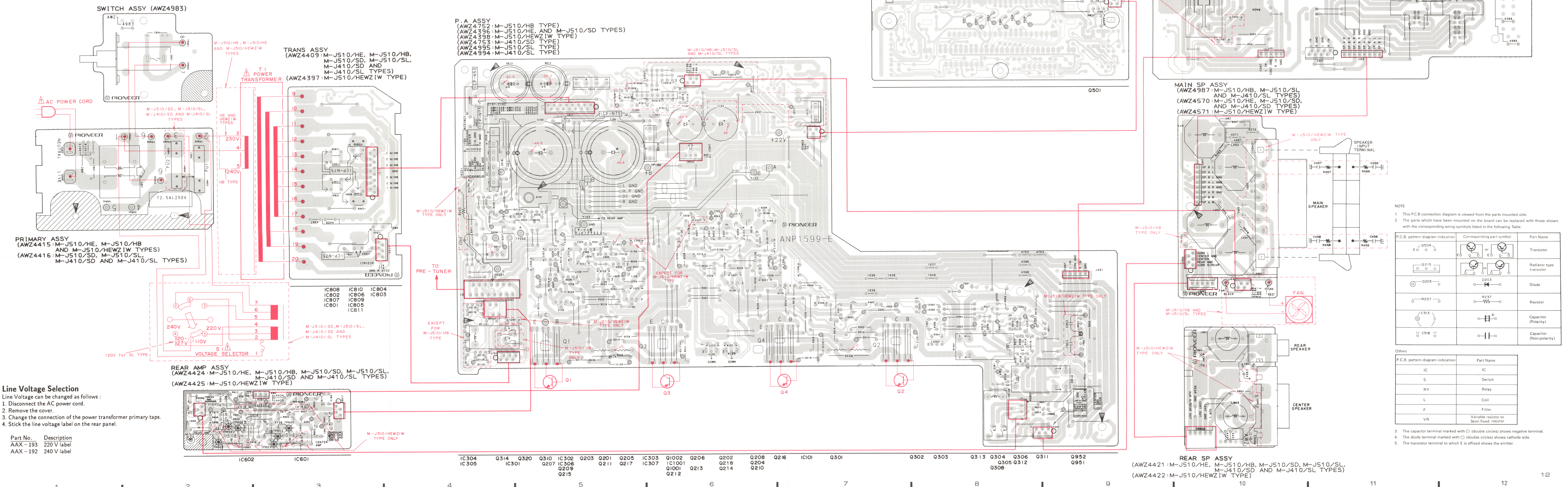
B

C

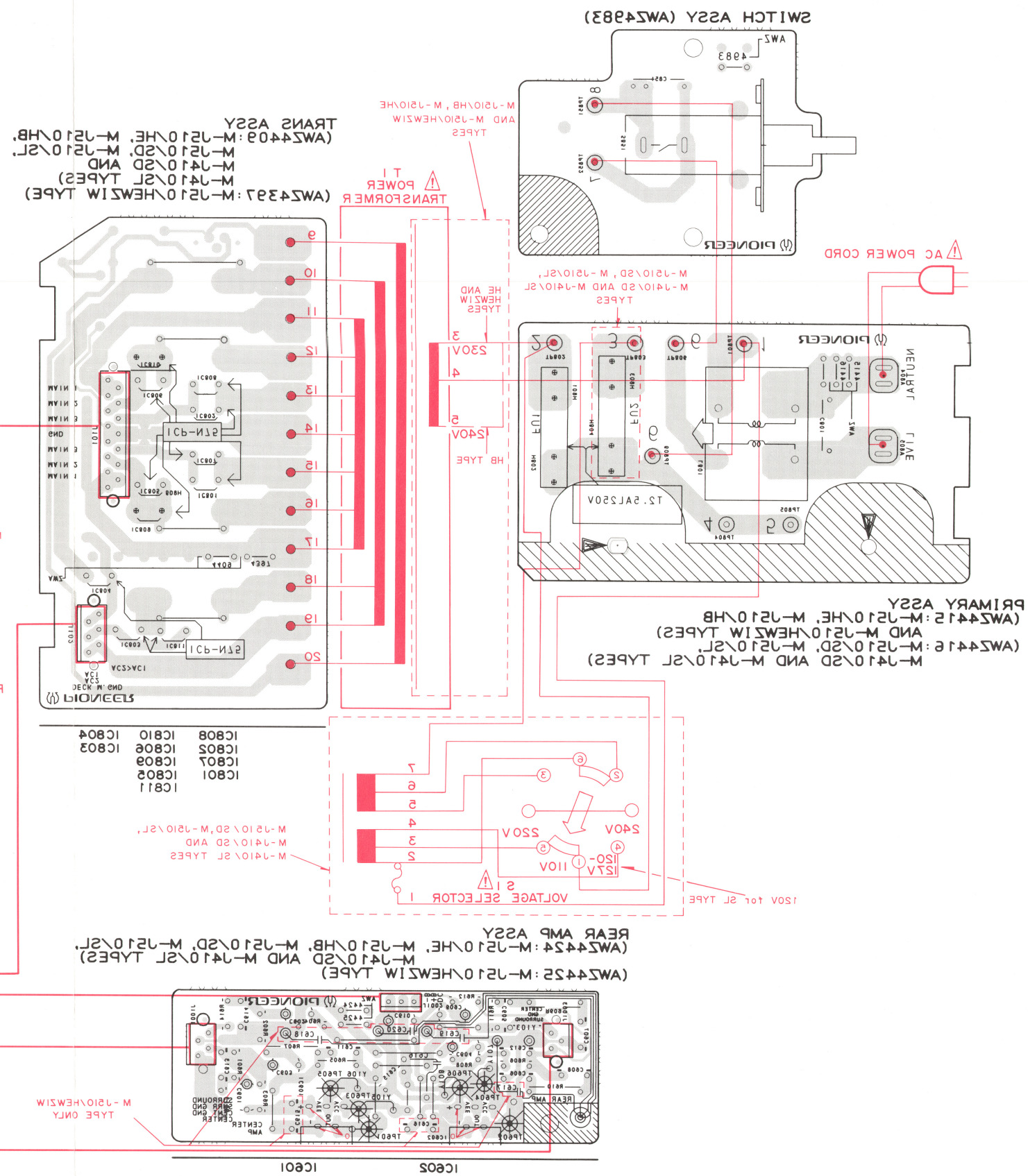
D

Line Voltage Selection
Line Voltage can be changed as follows:
1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the connection of the power transformer primary taps.
4. Stick the line voltage label on the rear panel.

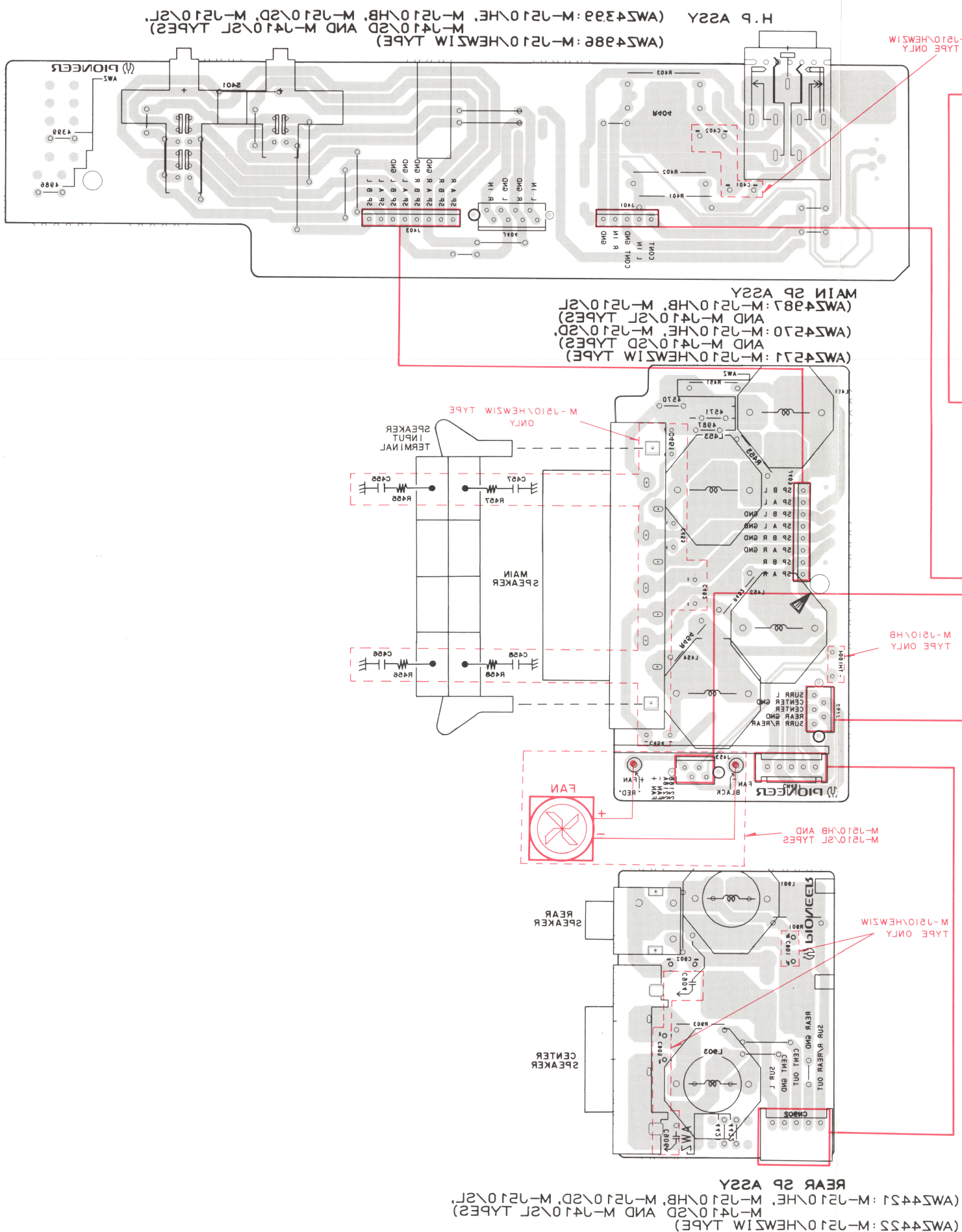
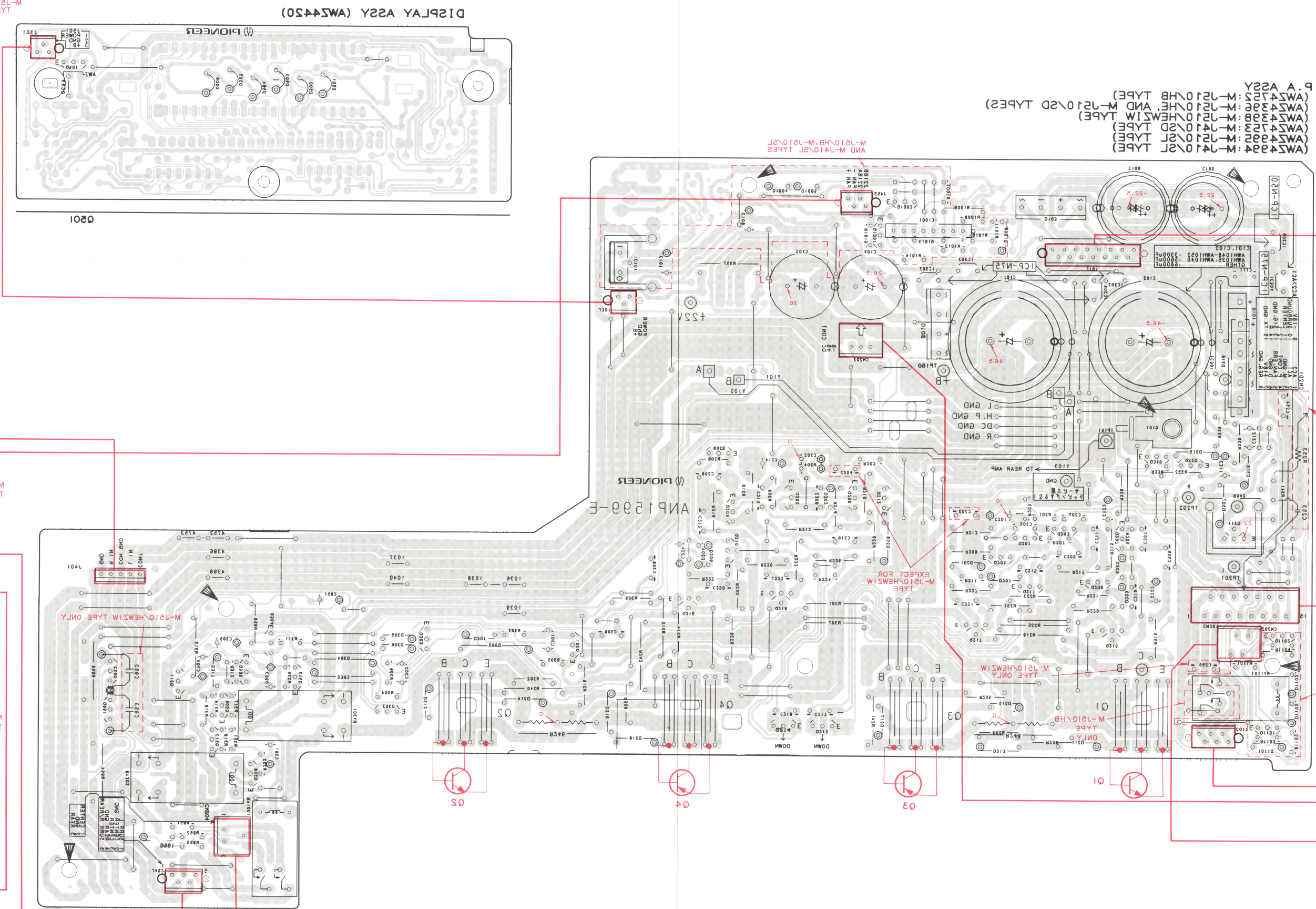
Part No.	Description
AAX-193	220 V label
AAX-192	240 V label



3. PCB CONNECTION DIAGRAMS



This P.C.B. connection diagram is viewed from the foil side.



4. PCB PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560 Ω \rightarrow 56 \times 10¹ \rightarrow 561 RD1/8PM $\boxed{5}\boxed{6}\boxed{1}$ J

47k Ω \rightarrow 47 \times 10³ \rightarrow 473 RD1/4PS $\boxed{4}\boxed{7}\boxed{3}$ J

0.5 Ω \rightarrow 0R5 RN2H $\boxed{0}\boxed{R}\boxed{5}$ K

1 Ω \rightarrow 010 RS1P $\boxed{0}\boxed{1}\boxed{0}$ K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω \rightarrow 562 \times 10¹ \rightarrow 5621 RN1/4PC $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$ F

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
LIST OF ASSEMBLIES				PRIMARY ASSY			
●		H.P ASSY	AWZ4399	COILS, FILTERS			
●		TRANS ASSY	AWZ4409	Δ	L801		ATF1006
●		SWITCH ASSY	AWZ4983	CAPACITORS			
●		PRIMARY ASSY	AWZ4415	Δ	C801	(0.01/AC400V)	ACG1002
●		DISPLAY ASSY	AWZ4420	DISPLAY ASSY			
●		REAR SP ASSY	AWZ4421	SEMICONDUCTORS			
●		REAR AMP ASSY	AWZ4424	Q501			RN1203
●		MAIN SP ASSY	AWZ4987	D501 - D506			AEL1122
●		P.A ASSY	AWZ4752	REAR SP ASSY			
H.P ASSY				COILS, FILTERS			
SWITCHES				L901, L903			ATH - 133
	S401		ASG1049	RESISTORS			
RESISTORS				R901, R903			RD1/4PMFL100J
	R401 - R404		RS2LMF681J	OTHERS			
OTHERS				CN901	PIN JACK(2P) SPEAKER TERMINAL 2-P		AKB1126 AKE1041
	HEADPHONE JACK		AKN1022	REAR AMP ASSY			
TRANS ASSY				SEMICONDUCTORS			
SEMICONDUCTORS				IC601, IC602			SI - 18751
	IC801 - IC811		ICP - N75	CAPACITORS			
SWITCH ASSY				C611, C612			CCCSL101J50
SWITCHES				C609, C610			CEHAQ100M50
Δ	S851		ASG1025	C603, C604			CEHAQ220M50
CAPACITORS				C601, C602			CEHAQ2R2M50
Δ	C851	(0.01/AC400V)	ACG1003	C605 - C608			CFTXA394J50
				C613, C614			CQMA122J50
				RESISTORS			
				R609, R610			RD1/2PM100J
				Other Resistors			RD1/8PM $\square\square\square$ J

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
MAIN SP ASSY			C223,C224		CEAS101M10
COILS, FILTERS			C1001		CEAS101M25
L451-L454		ATH1004	C103,C104		CEAS222M35
RESISTORS			C105,C106		CEAS332M35
R451-R454		RD1/4PMFL100J	C303		CEAS471M6
OTHERS			C107		CEAS4R7M50
TH1001	THERMISTOR	NTH2218F	C360,C361		CEASR47M50
	SPEAKER TERMINAL 8-P	AKE-111	C311		CEHAQ101M50
P.A ASSY			C213,C214		CEXA470M50
SEMICONDUCTORS			C201,C202		CEYA4R7M50
IC301-IC307		ICP-N75	C305-C308		CFTXA823J50
IC1001		M5223L	C217,C218		CKCYB102K50
IC101		NJM78M12FAS	C209,C210		CKCYB681K50
Q305		2SA1048	C203,C204		CQMA102J50
Q209,Q210		2SA1145	C111		CQMXA473J100
Q217,Q218		2SA1306	RESISTORS		
Q201-Q204,Q207,Q208		2SA992	R245,R246 (0.33/5W)		ACN1087
Q306		2SC1845	R315,R316		RD1/2PM100J
Q205,Q206,Q301,Q302,Q308		2SC2240	R215,R216		RD1/4PM102J
Q303,Q304,Q320,Q951,Q952, Q1002		2SC2458	R320		RD1/4PM103J
Q213,Q214		2SC2603	R225,R226		RD1/4PM471J
Q211,Q212		2SC2705	R217,R218		RD1/4PM623J
Q215,Q216		2SC3298	R233-R236		RD1/4PMFL101J
Q314		2SD1913	R209,R210,R213,R214		RFA1/4PS391J
Q311,Q312		RN1201	R227-R232		RFA1/4PS470J
Q310		RN1203	R239-R242		RFA1/4PS4R7J
Q313		RN2203	R1007		RN1/4PC1001F
Q1001		XDC143ES	R1013		RN1/4PC1202F
D101		D5SB20F	R1011		RN1/4PC5101F
D201-D208,D213,D214,D217,D218, D301-D307,D951,D1004,D1005		HSS104-02	R1012		RN1/4PC3301F
D317		HZ20EB	R342		RS2LMF332J
D211,D212,D215,D216		HZ4.7EB	R337		RS2LMF391J
D102,D103		RB152	R341		RS2LMF560J
D308		RD24ESB	R954,R956		RS2LMFR22J
D315,D1006		RD5.1ESB	Other Resistors		RD1/8PM□□□J
D316		S5566	OTHERS		
RELAYS			CN201	CONNECTOR(15P)	KPE15
RY301,RY302		ASR-112	CN204	CONNECTOR(3P)	KPE3
RY1001		ASR1035	CN202	CONNECTOR(4P)	KPE4
CAPACITORS				SCREW	BBZ30P080FZK
C101,C102 (6800/63V)		ACH1137			
C211,C212		CCCSL040C500			
C215,C216		CCCSL080D500			
C219-C222		CCCSL221K500			
C206,C208		CCCSL470J50			
C205,C207		CCPUSL470J50			
C301,C302		CEANP010M50			
C312		CEANP2R2M100			
C109		CEAS010M50			
C304,C951		CEAS100M50			

5. FOR M-J510/HE, SD, SL AND HEWZIWI; M-J410/SD AND SL

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

5.1 CONTRAST OF MISCELLANEOUS PARTS FOR M-J510/HE, SD, SL AND HEWZIWI

M-J510/HE, SD, SL, HEWZIWI and HB have the same construction except for the following :

Mark	Symbol & Description	Part No.					Remarks
		HB type	HE type	SD type	SL type	HEWZIWI type	
●	H.P assembly	AWZ4399	AWZ4399	AWZ4399	AWZ4399	AWZ4986	
●	P.A assembly	AWZ4752	AWZ4396	AWZ4396	AWZ4995	AWZ4398	
●	PRIMARY assembly	AWZ4415	AWZ4415	AWZ4416	AWZ4416	AWZ4415	
●	TRANS assembly	AWZ4409	AWZ4409	AWZ4409	AWZ4409	AWZ4397	
●	REAR SP assembly	AWZ4421	AWZ4421	AWZ4421	AWZ4421	AWZ4422	
●	REAR AMP assembly	AWZ4424	AWZ4424	AWZ4424	AWZ4424	AWZ4425	
●	MAIN SP assembly	AWZ4987	AWZ4570	AWZ4570	AWZ4987	AWZ4571	
Δ	AC power cord	ADG1067	ADG1068	ADG1133	ADG1068	ADG1068	
Δ	Voltage selector	.....	.....	AKX - 507	AKX - 507	.....
Δ	T1 power transformer	ATS1459	ATS1459	.....	.....	ATS1459	
Δ	T1 power transformer	.....	.....	ATS1461	ATS1461	.....
	Fan motor	AXM1013	.....	.....	AXM1013	.....
NSP	Heat sink	ANH1401	ANH1324	ANH1324	ANH1401	ANH1324	
NSP	Rear panel (MTL)	ANC1955	ANC1956	ANC1958	ANC2058	ANC1957	
	Screw	PPZ50P100FZK	.....	.....	PPZ50P100FZK	.....
	FM antenna	ADH1005	ADH1005	ADH1005	ADH1005	ADH1002	
	Remote control unit (CU - MJ006)	AXD1334	AXD1334	.....	.....	AXD1334	
	Remote control unit (CU - MJ008)	.....	.....	AXD1335	AXD1335	.....	See Page 24.
	Packing case	AHD2490	AHD2490	AHD2491	AHD2526	AHD2490	
	Battery cover	AZN2237	AZN2237	.....	.....	AZN2237	
	Operating instructions (English, French)	ARE1258	ARE1258	ARE1258	ARE1258	.....
	Operating instructions (German, Italian)	.....	ARC1385	.....	.....	ARC1385	
	Operating instructions (Dutch, Swedish, Spanish, Portuguese)	.....	ARC1387	.....	.....	.....

H.P ASSEMBLY
AWZ4986 and AWZ4399 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ4399	AWZ4986	
	C401, C402	.....	CKDYB102K50	

P.A ASSEMBLY
AWZ4396, AWZ4398, AWZ4995 and AWZ4752 have the same construction except for the following :

Mark	Symbol & Description	Part No.				Remarks
		AWZ4752	AWZ4396	AWZ4398	AWZ4995	
	IC101	NJM7812FAS	.....	.....	NJM7812FAS	
	IC1001	M5223L	.....	.....	M5223L	
	Q1001	XDC143ES	.....	.....	XDC143ES	
	Q1002	2SC2458	.....	.....	2SC2458	
	Q1101	.....	2SC2458	2SC2458	2SC2458	
	Q1102	.....	2SC1845	2SC1845	2SC1845	
	D1004, D1005	HSS104-02	.....	.....	HSS104-02	
	D1006	RD5.1ESB	.....	.....	RD5.1ESB	
	D1101	.....	HZ18EB	HZ18EB	HZ18EB	
	D1102, D1103	.....	HSS104-02	HSS104-02	HSS104-02	
	RY1101	.....	ASR1035	ASR1035	ASR1035	
	C107	CEAS4R7M50	.....	.....	CEAS4R7M50	
	C109	CEAS010M50	.....	.....	CEAS010M50	
	C203, C204	CQMA102J50	CQMA102J50	.....	CQMA102J50	
	C205, C207	CCPUSL470J50	CCPUSL470J50	CCDSL151J50	CCPUSL470J50	
	C206, C208	CCCSL470J50	CCCSL470J50	CCDSL151J50	CCCSL470J50	
	C211, C212	CCCSL040C500	CCCSL040C500	CCCSL100D500	CCCSL040C500	
	C253	.....	.....	CKDYX104M25	.....
	C254	.....	.....	CKDYB102K50	.....
	C255	.....	.....	CKDYB103K50	.....
	C952, C953	.....	.....	CKDYB472K50	.....
	R253	.....	.....	RD1/8PM100J	.....
	R1007	RN1/4PC1001F	.....	.....	RN1/4PC1001F	
	R1008	RD1/8PM221J	.....	.....	RD1/8PM221J	
	R1009	RD1/8PM224J	.....	.....	RD1/8PM224J	
	R1010	RD1/8PM562J	.....	.....	RD1/8PM562J	
	R1011	RN1/4PC5101F	.....	.....	RN1/4PC5101F	
	R1012	RN1/4PC3301F	.....	.....	RN1/4PC3301F	
	R1013	RN1/4PC1202F	.....	.....	RN1/4PC1202F	
	R1014	RD1/8PM222J	.....	.....	RD1/8PM222J	
	R1015	RD1/8PM182J	.....	.....	RD1/8PM182J	
	R1101	.....	RD1/8PM102J	RD1/8PM102J	RD1/8PM102J	
	R1102	.....	RD1/8PM563J	RD1/8PM563J	RD1/8PM563J	
	R1103, R1104	.....	RD1/8PM103J	RD1/8PM103J	RD1/8PM103J	

PRIMARY ASSEMBLY

Although AWZ4416 and AWZ4415 are different in part number, they consist of the same components.

TRANS ASSEMBLY

Although AWZ4397 and AWZ4409 are different in part number, they consist of the same components.

REAR SP ASSEMBLY

AWZ4422 and AWZ4421 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ4421	AWZ4422	
	L901, L903	ATH-133	ATH1009	
	C901, C905	.....	CKDYB103K50	
	C904, C906	.....	CKDYB681K50	
	R901, R903	RD1/4PMFL100J	RD1/4PMFL101J	

REAR AMP ASSEMBLY

AWZ4425 and AWZ4424 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ4424	AWZ4425	
	C611, C612	CCCSL101J50	CCCCH100D50	
	C615, C616	.....	CQMXA473J100	
	C617, C618	.....	CKDYB102K50	
	C619, C620	.....	CCDSL101J50	

MAIN SP ASSEMBLY

AWZ4570, AWZ4571 and AWZ4987 have the same construction except for the following :

Mark	Symbol & Description	Part No.			Remarks
		AWZ4987	AWZ4570	AWZ4571	
	L451 - L454	ATH1004	ATH1004	ATH1009	
	C451 - C454	.....	.....	CQMXA103J100	
	C455 - C458	.....	.....	CCDSL680J50	
	R451 - R454	RD1/4PMFL100J	RD1/4PMFL100J	RD1/4PMFL101J	
	R455 - R458	.....	.....	RD1/8PM100J	
	TH1001	NTH2218F	.....	.....

5.2 CONTRAST OF MISCELLANEOUS PARTS FOR M-J410/SD AND SL

M-J410/SD, SL and M-J510/HB have the same construction except for the following :

Mark	Symbol & Description	Part No.			Remarks
		M – J510/HB	M – J410/SD	M – J410/SL	
●	PRIMARY assembly	AWZ4415	AWZ4416	AWZ4416	For PRIMARY assembly
●	MAIN SP assembly	AWZ4987	AWZ4570	AWZ4987	
●	P.A assembly	AWZ4752	AWZ4753	AWZ4994	
	Q1, Q2 Transistor	MSC3281	2SC3182N	2SC3182N	
	Q3, Q4 Transistor	MSA1302	2SA1265N	2SA1265N	
△	AC power cord	ADG1067	ADG1133	ADG1068	
△	Voltage selector	.....	AKX – 507	AKX – 507
△	T1 power transformer	ATS1459	.....	.....
△	T1 power transformer	.....	ATS1462	ATS1462
△	FU2 Fuse (T2.5A/250V)	.....	AEK – 512	AEK – 512
	Fan motor	AXM1013	.....	AXM1013
NSP	Heat sink	ANH1401	ANH1324	ANH1401	
NSP	Front panel(PLS)	AMB2048	AMB2047	AMB2047	
NSP	Rear panel (MTL)	ANC1955	ANC1959	ANC2057	
NSP	Reinforced plate	ANG1635	.....	.....
	Screw	PPZ50P100FZK	.....	PPZ50P100FZK
	Remote control unit (CU – MJ006)	AXD1334	.....	.....
	Remote control unit (CU – MJ007)	.....	AXD1333	AXD1333
	Packing case	AHD2490	AHD2489	AHD2525	

PRIMARY ASSEMBLY

Although AWZ4416 and AWZ4415 are different in part number, they consist of the same components.

MAIN SP ASSEMBLY

AWZ4570 and AWZ4987 have the same construction except for the following :

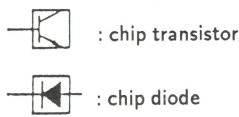
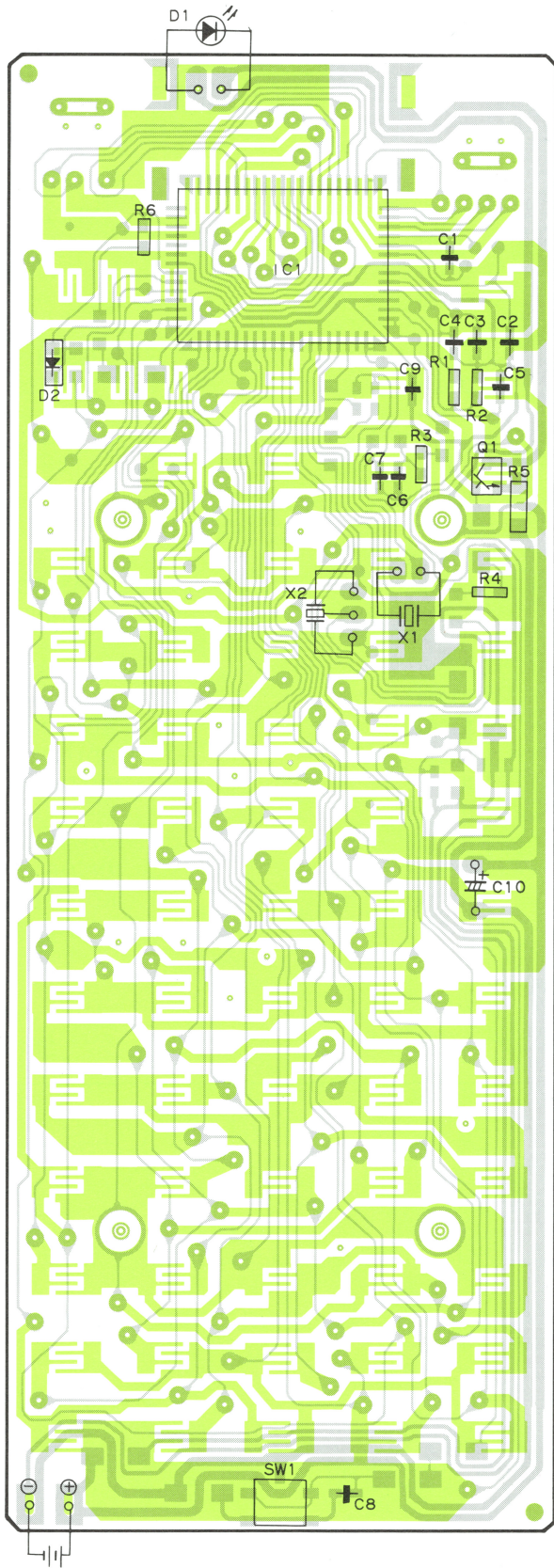
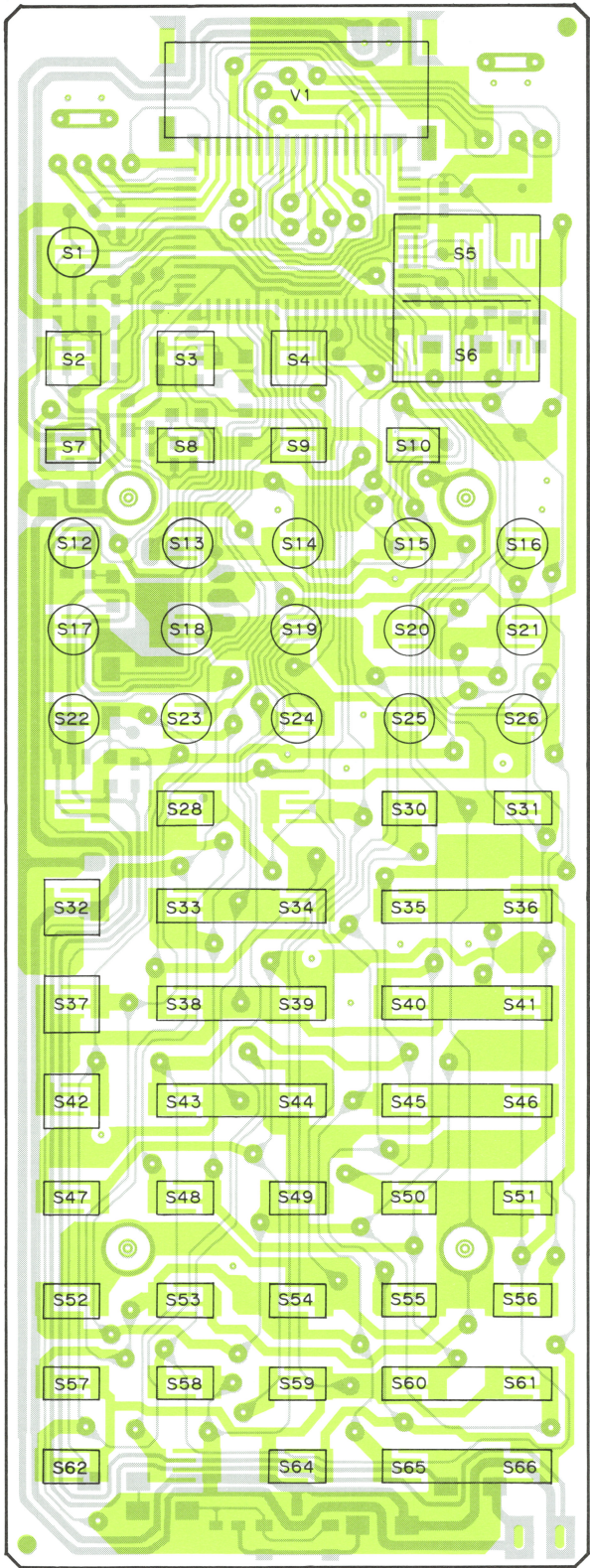
Mark	Symbol & Description	Part No.		Remarks
		AWZ4987	AWZ4570	
	TH1001	NTH2218F	.....

P.A ASSEMBLY**AWZ4753, AWZ4994 and AWZ4752 have the same construction except for the following :**

Mark	Symbol & Description	Part No.			Remarks
		AWZ4752	AWZ4753	AWZ4994	
	IC101	NJM7812FAS	.....	NJM7812FAS	
	IC1001	M5223L	.....	M5223L	
	Q1001	XDC143ES	.....	XDC143ES	
	Q1002	2SC2458	.....	2SC2458	
	Q1101	.....	2SC2458	2SC2458	
	Q1102	.....	2SC1845	2SC1845	
	D1004, D1005	HSS104-02	.....	HSS104-02	
	D1006	RD5.1ESB	.....	RD5.1ESB	
	D1101	.....	HZ18EB	HZ18EB	
	D1102, D1103	.....	HSS104-02	HSS104-02	
	RY1101	.....	ASR1035	ASR1035	
	C101, C102	ACH1137	ACH1211	ACH1211	
	C107	CEAS4R7M50	.....	CEAS4R7M50	
	C109	CEAS010M50	.....	CEAS010M50	
	R1007	RN1/4PC1001F	.....	RN1/4PC1001F	
	R1008	RD1/8PM221J	.....	RD1/8PM221J	
	R1009	RD1/8PM224J	.....	RD1/8PM224J	
	R1010	RD1/8PM562J	.....	RD1/8PM562J	
	R1011	RN1/4PC5101F	.....	RN1/4PC5101F	
	R1012	RN1/4PC3301F	.....	RN1/4PC3301F	
	R1013	RN1/4PC1202F	.....	RN1/4PC1202F	
	R1014	RD1/8PM222J	.....	RD1/8PM222J	
	R1015	RD1/8PM182J	.....	RD1/8PM182J	
	R1101	.....	RD1/8PM102J	RD1/8PM102J	
	R1102	.....	RD1/8PM563J	RD1/8PM563J	
	R1103, R1104	.....	RD1/8PM103J	RD1/8PM103J	

5.3 Remote control unit for M – J 510/SD and SL types [AXD1335(CU – MJ008)]

PCB



Schematic diagram

Note:

(Type 2)

1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".

2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

3. RESISTORS:

Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.

Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.

Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.

4. CAPACITORS:

Unit: p:pF or μF unless otherwise noted.

Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.

Rated voltage: 50V except for electrolytic capacitors.

5. COILS:

Unit: m:mH or μH unless otherwise noted.

6. VOLTAGE AND CURRENT:

□ : DC voltage (V) at no input signal unless otherwise noted.

⇨ mA or ⇩ mA : DC current at no input signal unless otherwise noted.

7. OTHERS:

• ➔ : Signal route.

• ⊗ : Adjusting point.

• ▼ (Red) : Measurement point.

• The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

8. SWITCHES (Underline indicates switch position):

S 1 : SYSTEM POWER

S 2 : VOLUME+

S 3 : FUNC.

S 4 : DIRECT FUNC.

S 5 : P.BASS

S 6 : VOLUME-

S 7 : CD/LD

S 8 : TV CONTROL

S 9 : VTR MODE

S 10 : SYSTEM

S 12 : PGM/BAND

S 13 : 1

S 14 : 2

S 15 : 3

S 16 : 4

S 17 : MPX

S 18 : 5

S 19 : 6

S 20 : 7

S 21 : 8

S 22 : SCAN

S 23 : 9

S 24 : 10/0

S 25 : 10/+10

S 26 : 12/CLEAR, CHP/TM

S 28 : DISPLAY

S 30 : TV, POWER

S 31 : TV, FUNC

S 32 : ■

S 33 : CHANNEL- /

S 34 : CHANNEL+ /

S 35 : TV VOLUME- /

S 36 : TV VOLUME+ /

S 37 : POWER /

S 38 : TAPE I /

S 39 : TAPE I /

S 40 : ◀ / ▶

S 41 : ▶ / ▶

S 42 : TV/VTR / /DIA/CX

S 43 : TAPE II / /REPEAT-A

S 44 : TAPE II / /REPEAT-B

S 45 : RANDOM /

S 46 : RANDOM /

S 47 : II

S 48 : ○

S 49 : ●

S 50 : EDIT

S 51 : C

S 52 : EFFECT

S 53 : GEQ

S 54 : FLAT

S 55 : SOUD JOG-

S 56 : SOUD JOG+

S 57 : SFC MODE

S 58 : DOLBY MODE

S 59 : CENTER MODE

S 60 : SENTER LEVEL-

S 61 : SENTER LEVEL+

S 62 : SLEEP

S 64 : TEST TONE

S 65 : - □ REAR LEVEL

S 66 : + □ REAR LEVEL

PCB PARTS LIST**NOTES:**

• Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

• The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

• Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

• When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω → 56 × 10¹ → 561 RD1/8PM 561 J

47kΩ → 47 × 10³ → 473 RD1/4PS 473 J

0.5Ω → 0R5 RN2H 0R5 K

1Ω → 010 RS1P 010 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ → 562 × 10¹ → 5621 RN1/4PC 5621 F

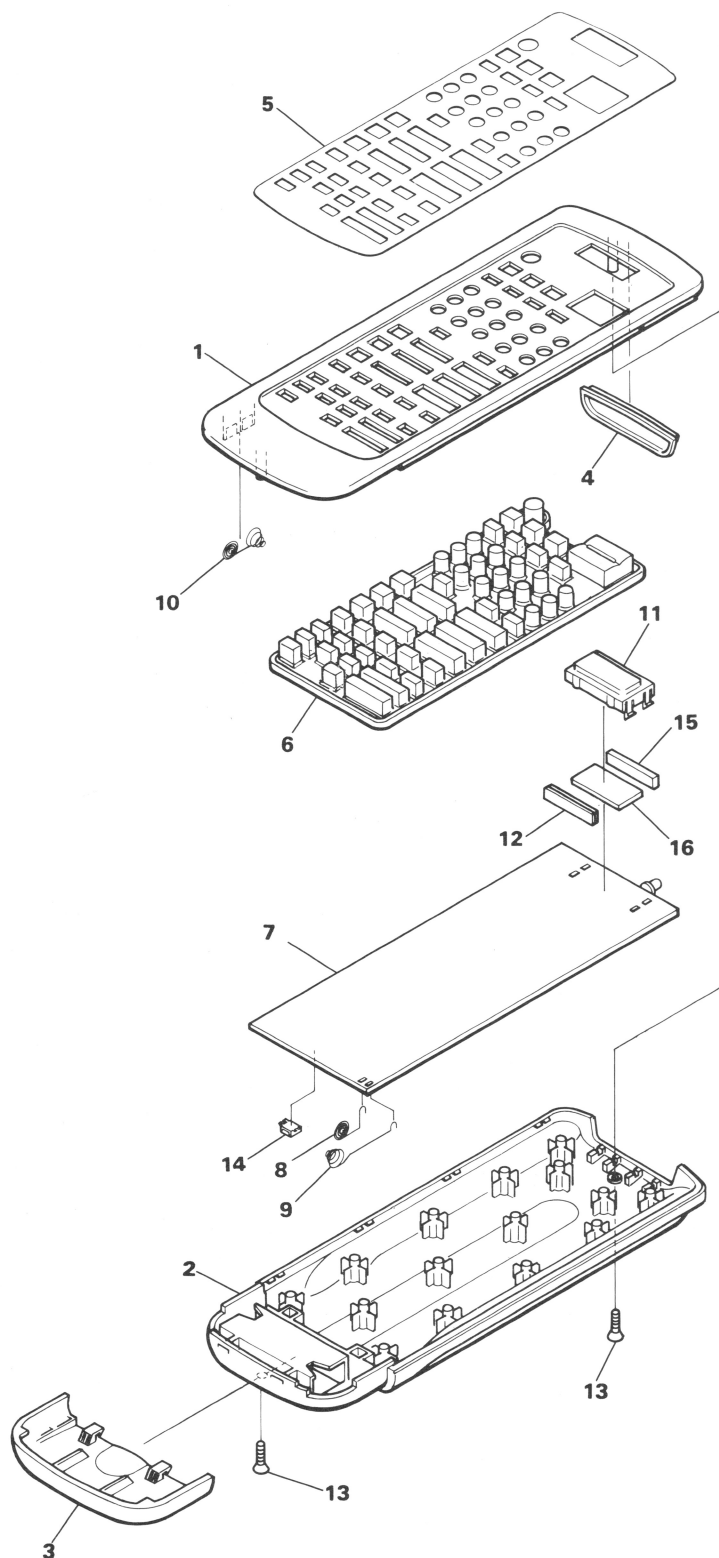
Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
SEMICONDUCTORS			RESISTORS		
IC1		AZC1589	R5		RD1/4PM020J
Q1	Chip Transistor	2SC3265		Other Resistors	RD1/8PM□□□J
D1	LED	SE303A-C			
D2	Chip Diode	RLS73			
SWITCH			OTHERS		
	MT Switch (RESET)	AZS1119	V1	LCD	DLC-2852
CAPACITORS			X1	(32.768KHz)	1TA602E01
C1-5		CKCYX104M25	X2	(4MHz)	FCR4.0MC3
C6, 7		CCCSL080D50			
C8, 9		CKCYX104M25			
C10		CEAS102M10			

(M-J510/SD and SL types) EXPLODED VIEWS AND PARTS LIST

NOTES:

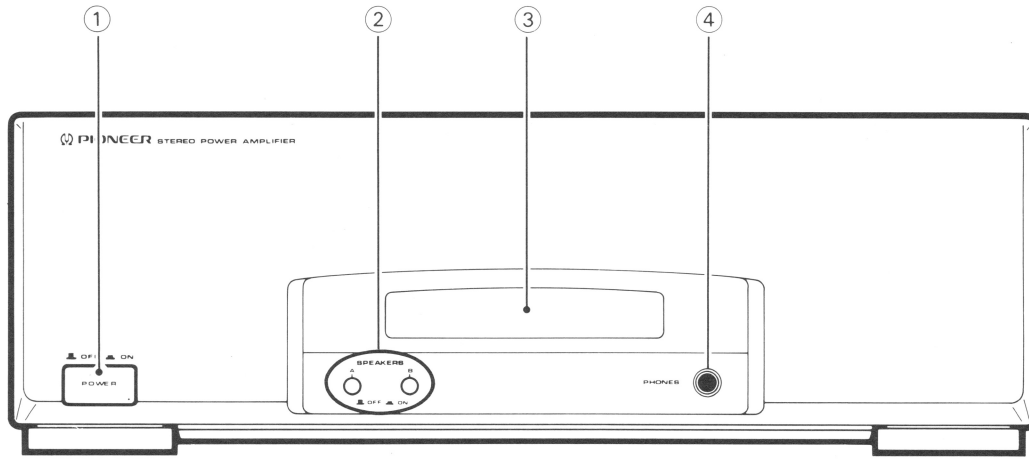
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Mark	No.	Description	Parts No.
	1	Case(A)	AZN2238
	2	Case(B)	AZN2239
	3	Battery cover	AZN2237
	4	Filter	AZA1355
	5	Name plate	AZA1432
	6	Rubber sheet	AZA1433
NSP	7	P.W.B	AZW1139
	8	Terminal A	AZB1332
	9	Terminal B	AZB1333
	10	Spring	AZB1334
	11	LCD cover	AZA1359
	12	Connector	AZK1123
	13	Screw	AZB1335
	14	MT Switch	AZS1119
	15	Spacer	AZN2107
	16	Spacer	AZN2181



6. PANEL FACILITIES

FRONT PANEL FACILITIES



* Illustration shows model M-J510.

STEREO POWER AMPLIFIER M-J310/M-J410/M-J510

① POWER ON/OFF switch

This is the switch for electric power.
When the power is ON, the power indicator ③ lights.

Leave this power switch ON. To turn the system on and off, use tuner control amplifier's power switch.

② SPEAKERS buttons (M-J410, M-J510 only)

Speakers connected to the rear panel SPEAKERS A, B terminals can be switched ON/OFF independently.

NOTE:

When the speaker system is connected to only one speaker terminal (A or B) and both A and B buttons are ON, there will be no sound. Turn ON only the selector to which the speaker system is connected.

③ Power indicator

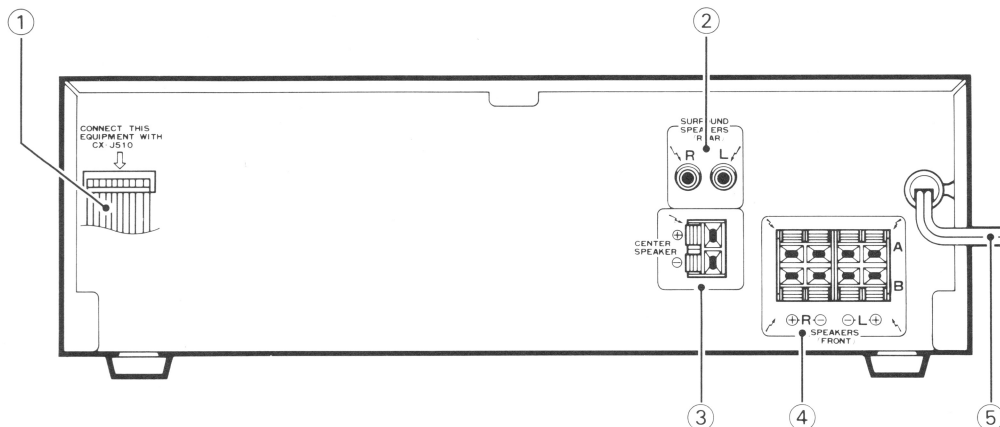
④ PHONES jack

For stereo headphones.

NOTE:

There is no output from the speakers when headphones are plugged into PHONES jack.

REAR PANEL FACILITIES



STEREO POWER AMPLIFIER M-J310/M-J410/ M-J510

* Illustration shows model M-J510.

① Tuner control amplifier system cable

Connect to the POWER AMP jack of the tuner control amplifier.

② SURROUND SPEAKERS jacks

Connect to the Surround speaker systems.

NOTE:

Connect a speaker system having a nominal impedance of 16 Ω or more.

③ CENTER SPEAKER terminal (M-J510, M-J410 Multi-voltage model only)

Connect to the center speaker.

NOTE:

Connect a speaker system having a nominal impedance ranging from 8 Ω to 16 Ω or more.

④ SPEAKERS terminals

A: Connect to a first set of speakers.

B: Connect to a second set of speakers. With M-J410 and M-J510 UK/European models multi-room (subroom) speakers can be connected. The M-J310 features only one set of speaker terminals.

NOTE:

Connect a speaker system having a nominal impedance ranging from 8 Ω to 16 Ω .

⑤ Power cord

Connect to the tuner control amplifier's AC OUTLETS.

7. SPECIFICATIONS

[M-J310]

Continuous Power Output (DIN)

U.K., European models... 40 W + 40 W (1 kHz, T.H.D 1 %, 8 Ω)

Continuous Power Output (RMS)

Multivoltage model..... 50 W + 50 W (1 kHz, T.H.D 5 %, 8 Ω)

Total Harmonic Distortion (1 kHz, 20 W, 8 Ω)..... 0.1 % * *

[M-J410]

Continuous Power Output (DIN)

U.K., European models... 80 W + 80 W (1 kHz, T.H.D 1 %, 8 Ω)

Continuous Power Output (RMS)

Multivoltage model

Front..... 70 W + 70 W (1 kHz, T.H.D 5 %, 8 Ω)

Rear 16 W (1 kHz, T.H.D 5 %, 8 Ω)

Center 16 W (1 kHz, T.H.D 5 %, 8 Ω)

Total Harmonic Distortion

U.K., European models (1 kHz, 40 W, 8 Ω)..... 0.1 % **

Multivoltage model (1 kHz, 35 W, 8 Ω)..... 0.1 % **

[M-J510]

Continuous Power Output (DIN)

U.K., European models

Front..... 80 W + 80 W (1 kHz, T.H.D 1 %, 8 Ω)

Rear 14 W (1 kHz, T.H.D 1 %, 8 Ω)

Center 14 W (1 kHz, T.H.D 1 %, 8 Ω)

Continuous Power Output (RMS)

Multivoltage model

Front..... 90 W + 90 W (1 kHz, T.H.D 5 %, 8 Ω)

Rear 16 W (1 kHz, T.H.D 5 %, 8 Ω)

Center 16 W (1 kHz, T.H.D 5 %, 8 Ω)

Total Harmonic Distortion (1 kHz, 40 W, 8 Ω)..... 0.1 % **

Power Supply/Miscellaneous

Power requirements

U.K. model a.c. 240 Volts ~, 50/60 Hz

European model a.c. 220 — 230 Volts ~, 50/60 Hz

Multivoltage model AC 110 V/120 — 127 V/220 V/240 V (switchable), 50/60 Hz

Power consumption

M-J310..... 180 W

M-J410

U.K., European models 300 W

Multivoltage model 320 W

M-J510..... 380 W

Dimensions

M-J310 360 (W) x 340 (D) x 121 (H) mm

M-J410, M-J510 360 (W) x 341 (D) x 121 (H) mm

Weight

M-J310 6.3 kg

M-J410 7.4 kg

M-J510 7.7 kg

Accessories

Operating instructions 1

Remote control unit 1

Dry cell batteries "AAA" (IEC R03/UM-4) 2

FM T-type Antenna..... 1

AM Loop Antenna 1

** Measured By Audio Spectrum Analyzer.

